



#7

SEQUENCE LISTING

<110> Cases, Sylvaine
Stone, Scot
Zhou, Ping
Farese, Robert V.
Chi-Liang Eric Yen

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(DGAT2a)

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<141> 2002-01-14

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<151> 2001-02-23

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<151> 2001-02-26

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<212> DNA
<213> Homo sapiens

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caataggtcc aaggtggaaa agcagctaca ggtcatctca gtgctccagt gggctctgtc	240
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ctttcccatc cagctggta agacacacaa cctgctgacc accaggaact atatcttgg	480
ataccacccc catggatca tggcctggg tgcctctgc aacttcagca cagaggccac	540
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35 40 45
Ala Leu Gln Asp Leu Phe Ser Val Thr Trp Leu Asn Arg Ser Lys Val
50 55 60
Glu Lys Gln Leu Gln Val Ile Ser Val Leu Gln Trp Val Leu Ser Phe
65 70 75 80
Leu Val Leu Gly Val Ala Cys Ser Ala Ile Leu Met Tyr Ile Phe Cys
85 90 95
Thr Asp Cys Trp Leu Ile Ala Val Leu Tyr Phe Thr Trp Leu Val Phe
100 105 110
Asp Trp Asn Thr Pro Lys Lys Gly Gly Arg Arg Ser Gln Trp Val Arg
115 120 125
Asn Trp Ala Val Trp Arg Tyr Phe Arg Asp Tyr Phe Pro Ile Gln Leu
130 135 140
Val Lys Thr His Asn Leu Leu Thr Thr Arg Asn Tyr Ile Phe Gly Tyr
145 150 155 160
His Pro His Gly Ile Met Gly Leu Gly Ala Phe Cys Asn Phe Ser Thr
165 170 175
Glu Ala Thr Glu Val Ser Lys Lys Phe Pro Gly Ile Arg Pro Tyr Leu
180 185 190
Ala Thr Leu Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu
195 200 205
Met Ser Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu
210 215 220
Leu Ser Lys Asn Gly Ser Gly Asn Ala Ile Ile Val Val Gly Gly
225 230 235 240
Ala Ala Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr Leu
245 250 255
Arg Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly Ala Asp
260 265 270
Leu Val Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr Lys Gln Val
275 280 285
Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Gln Lys Phe Gln
290 295 300
Lys Tyr Ile Gly Phe Ala Pro Cys Ile Phe His Gly Arg Gly Leu Phe
305 310 315 320
Ser Ser Asp Thr Trp Gly Leu Val Pro Tyr Ser Lys Pro Ile Thr Thr
325 330 335
Val Val Gly Glu Pro Ile Thr Ile Pro Lys Leu Glu His Pro Thr Gln
340 345 350
Gln Asp Ile Asp Leu Tyr His Thr Met Tyr Met Glu Ala Leu Val Lys
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Leu Phe Asp Lys His Lys Thr Lys Phe Gly Leu Pro Glu Thr Glu Val
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Leu Glu Val Asn
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<213> Mus musculus

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<222> (1)...(1167)
<223> n = A,T,C or G

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caccccccatt	gcatcatggg	cctgggtgccc	ttctgttaact	tcagcacaga	ggctactgaa	540
gtcagcaaga	agtttctgg	cataaggccc	tatttggcta	cgttggcygg	taactccgg	600
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gagaatgagg	tatacaagca	ggtgatctt	gaggagggtt	cctggggccg	atgggtccag	900
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cccatcaactg	tccccaaagct	ggagcaccccg	acccagaaag	acatcgacct	gtaccatgcc	1080
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<212> PRT
<213> Mus musculus

<400> 4

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Ser	Arg	Glu	Gly	Ser	Gly	Arg	Trp	Gly	Thr	Gly	Ser	Ser	Ile	Leu	Ser
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Ala	Leu	Gln	Asp	Ile	Phe	Ser	Val	Thr	Trp	Leu	Asn	Arg	Ser	Lys	Val
															50
Glu	Lys	Gln	Leu	Gln	Val	Ile	Ser	Val	Leu	Gln	Trp	Val	Leu	Ser	Phe
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Leu	Val	Leu	Gly	Val	Ala	Cys	Ser	Val	Ile	Leu	Met	Tyr	Thr	Phe	Cys
															85
Thr	Asp	Cys	Trp	Leu	Ile	Ala	Val	Leu	Tyr	Phe	Thr	Trp	Leu	Ala	Phe
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Asp	Trp	Asn	Thr	Pro	Lys	Lys	Gly	Gly	Arg	Arg	Ser	Gln	Trp	Val	Arg
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Asn	Trp	Ala	Val	Trp	Arg	Tyr	Phe	Arg	Asp	Tyr	Phe	Pro	Ile	Gln	Leu
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Val	Lys	Thr	His	Asn	Leu	Leu	Thr	Thr	Arg	Asn	Tyr	Ile	Phe	Gly	Tyr
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His Pro His Gly Ile Met Gly Leu Gly Ala Phe Cys Asn Phe Ser Thr
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 Glu Ala Thr Glu Val Ser Lys Lys Phe Pro Gly Ile Arg Pro Tyr Leu
 180 185 190
 Ala Thr Leu Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu
 195 200 205
 Met Ser Gly Gly Ile Cys Leu Val Asn Arg Asp Thr Ile Asp Tyr Leu
 210 215 220
 Leu Ser Lys Asn Gly Ser Gly Asn Ala Ile Ile Val Val Gly Gly
 225 230 235 240
 Ala Ala Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr Leu
 245 250 255
 Lys Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly Ala Asp
 260 265 270
 Leu Val Pro Thr Tyr Ser Phe Gly Glu Asn Glu Val Tyr Lys Gln Val
 275 280 285
 Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Lys Lys Phe Gln Lys
 290 295 300
 Tyr Ile Gly Phe Ala Pro Cys Ile Phe His Gly Arg Gly Leu Phe Ser
 305 310 315 320
 Ser Asp Thr Trp Gly Leu Val Pro Tyr Ser Lys Pro Ile Thr Thr Val
 325 330 335
 Val Gly Glu Pro Ile Thr Val Pro Lys Leu Glu His Pro Thr Gln Lys
 340 345 350
 Asp Ile Asp Leu Tyr His Ala Met Tyr Met Glu Ala Leu Val Lys Leu
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 Phe Asp Asn His Lys Thr Lys Phe Gly Leu Pro Glu Thr Glu Val Leu
 370 375 380
 Glu Val Asn
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 <213> Mus musculus

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 atgctggtcc tgtacaacta ttggttccct tacatcccat atctggtctg gtttactat 180
 gactggagaa ccccagagca aggaggcaga agatgaaact gggtccaaag ctggcctgtg 240
 tggaaagtatt ttaaggagta tttccaatc tgtcttgtca aaacgcagga tttggatccg 300
 ggtcacaatt atatatttgg gtttcaccct catggaatat tcgtgcctgg agcctttgga 360
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 ctgatatatg ccagaggaat ttccagcac tactttggca taatgcctta tcggaagctg 840
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<210> 6
 <211> 335

<212> PRT

<213> Mus musculus

<400> 6

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35 40 45
Phe Leu Tyr Ile Pro Tyr Leu Val Trp Phe Tyr Tyr Asp Trp Arg Thr
50 55 60
Pro Glu Gln Gly Gly Arg Arg Trp Asn Trp Val Gln Ser Trp Pro Val
65 70 75 80
Trp Lys Tyr Phe Lys Glu Tyr Phe Pro Ile Cys Leu Val Lys Thr Gln
85 90 95
Asp Leu Asp Pro Gly His Asn Tyr Ile Phe Gly Phe His Pro His Gly
100 105 110
Ile Phe Val Pro Gly Ala Phe Gly Asn Phe Cys Thr Lys Tyr Ser Asp
115 120 125
Phe Lys Lys Leu Phe Pro Gly Phe Thr Ser Tyr Leu His Val Ala Lys
130 135 140
Ile Trp Phe Cys Phe Pro Leu Phe Arg Glu Tyr Leu Met Ser Asn Gly
145 150 155 160
Pro Val Ser Val Ser Lys Glu Ser Leu Ser His Val Leu Ser Lys Asp
165 170 175
Gly Gly Gly Asn Val Ser Ile Ile Val Leu Gly Gly Ala Lys Glu Ala
180 185 190
Leu Glu Ala His Pro Gly Thr Phe Thr Leu Cys Ile Arg Gln Arg Lys
195 200 205
Gly Phe Val Lys Met Ala Leu Thr His Gly Ala Ser Leu Val Pro Val
210 215 220
Phe Ser Phe Gly Glu Asn Asp Leu Tyr Lys Gln Ile Asn Asn Pro Lys
225 230 235 240
Gly Ser Trp Leu Arg Thr Ile Gln Asp Ala Met Tyr Asp Ser Met Gly
245 250 255
Val Ala Leu Pro Leu Ile Tyr Ala Arg Gly Ile Phe Gln His Tyr Phe
260 265 270
Gly Ile Met Pro Tyr Arg Lys Leu Ile Tyr Thr Val Val Gly Arg Pro
275 280 285
Ile Pro Val Gln Gln Ile Leu Asn Pro Thr Ser Glu Gln Ile Glu Glu
290 295 300
Leu His Gln Thr Tyr Leu Glu Glu Leu Lys Lys Leu Phe Asn Glu His
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325 330 335

<210> 7

<211> 1129

<212> DNA

<213> Homo sapiens

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aactatttgt tcctttacat cccttatttg atgtggctt actttgactg gcataccca 240

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gactattttc	caattcatct	tatcaaaaact	caagatttgg	atccaagtca	caactatata	360
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aagaaaagtg	tgtcctacat	ggtaagcaag	gagggaggtg	gaaacatctc	tgtcattgtc	600
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cagcggaaag	gatttgttaa	aattgctttg	acccatggcg	cctctctgg	cccagtgggt	720
tcttttgg	aaaatgaact	gtttaaacaa	actgacaacc	ctgaaggatc	atggattaga	780
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<212> PRT
<213> Homo sapiens
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 Met Ser Ile Gly Ile Thr Val Met Leu Ile Ile His Asn Tyr Leu Phe
 35 40 45
 Leu Tyr Ile Pro Tyr Leu Met Trp Leu Tyr Phe Asp Trp His Thr Pro
 50 55 60
 Glu Arg Gly Gly Arg Arg Ser Ser Trp Ile Lys Asn Trp Thr Leu Trp
 65 70 75 80
 Lys His Phe Lys Asp Tyr Phe Pro Ile His Leu Ile Lys Thr Gln Asp
 85 90 95
 Leu Asp Pro Ser His Asn Tyr Ile Phe Gly Phe His Pro His Gly Ile
 100 105 110
 Met Ala Val Gly Ala Phe Gly Asn Phe Ser Val Asn Tyr Ser Asp Phe
 115 120 125
 Lys Asp Leu Phe Pro Gly Phe Thr Ser Tyr Leu His Val Leu Pro Leu
 130 135 140
 Trp Phe Trp Cys Pro Val Phe Arg Glu Tyr Val Met Ser Val Gly Leu
 145 150 155 160
 Val Ser Val Ser Lys Lys Ser Val Ser Tyr Met Val Ser Lys Glu Gly
 165 170 175
 Gly Gly Asn Ile Ser Val Ile Val Leu Gly Gly Ala Lys Glu Ser Leu
 180 185 190
 Asp Ala His Pro Gly Lys Phe Thr Leu Phe Ile Arg Gln Arg Lys Gly
 195 200 205
 Phe Val Lys Ile Ala Leu Thr His Gly Ala Ser Leu Val Pro Val Val
 210 215 220
 Ser Phe Gly Glu Asn Glu Leu Phe Lys Gln Thr Asp Asn Pro Glu Gly
 225 230 235 240
 Ser Trp Ile Arg Thr Val Gln Asn Lys Leu Gln Lys Ile Met Gly Phe
 245 250 255
 Ala Leu Pro Leu Phe His Ala Arg Gly Val Phe Gln Tyr Asn Phe Gly
 260 265 270
 Leu Met Thr Tyr Arg Lys Ala Ile His Thr Val Val Gly Arg Pro Ile

275	280	285
Pro Val Arg Gln Thr Leu Asn Pro Thr Gln Glu Gln Ile Glu Glu Leu		
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His Gln Thr Tyr Met Glu Glu Leu Arg Lys Leu Phe Glu Glu His Lys		
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Gly Lys Tyr Gly Ile Pro Glu His Glu Thr Leu Val Leu Lys		
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<213> Mus musculus

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35 40 45		
Leu Leu Asp Trp Lys Thr Pro Asp Lys Gly Gly Arg Arg Ser Asp Trp		
50 55 60		
Val Arg Asn Trp Asn Val Trp Asn His Ile Arg Asp Tyr Phe Pro Ile		
65 70 75 80		
Thr Ile Leu Lys Thr Lys Asp Leu Ser Pro Ser Glu Asn Tyr Ile Met		
85 90 95		
Gly Val His Pro His Gly Leu Leu Thr Phe Gly Ala Phe Cys Asn Phe		
100 105 110		
Cys Thr Glu Ala Thr Gly Phe Ser Lys Thr Phe Pro Gly Ile Thr Pro		
115 120 125		
His Leu Ala Thr Leu Ser Trp Phe Phe Lys Ile Pro Ile Ile Arg Asp		
130 135 140		
Tyr Ile Met Ala Lys Gly Leu Cys Ser Val Ser Gln Ala Ser Ile Asp		
145 150 155 160		
Tyr Leu Leu Ser His Gly Thr Gly Asn Leu Val Gly Ile Pro Ile Ile		
165 170 175		
Thr Val Val Gly Glu Ala Leu Pro Leu Pro Gln Val Lys Asn Pro Ser		

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195					200						205				
Lys	Leu	Phe	Glu	Gln	His	Lys	Val	Gln	Tyr	Gly	Cys	Ser	Asn	Thr	Gln
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225															

<210> 11
 <211> 1240
 <212> DNA
 <213> Homo sapiens

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 gccacgctgt cctggttctt caagatcccc tttgttaggg agtacctcat ggc当地
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<210> 12
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 <212> PRT
 <213> Homo sapiens

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 20 25 30
 Gln Pro Leu Phe Val Tyr Leu Leu Phe Thr Ser Leu Trp Pro Leu Pro
 35 40 45
 Val Leu Tyr Phe Ala Trp Leu Phe Leu Asp Trp Lys Thr Pro Glu Arg
 50 55 60
 Gly Gly Arg Arg Ser Ala Trp Val Arg Asn Trp Cys Val Trp Thr His
 65 70 75 80
 Ile Arg Asp Tyr Phe Pro Ile Thr Ile Leu Lys Thr Lys Asp Leu Ser
 85 90 95
 Pro Glu His Asn Tyr Leu Met Gly Val His Pro His Gly Leu Leu Thr
 100 105 110
 Phe Gly Ala Phe Cys Asn Phe Cys Thr Glu Ala Thr Gly Phe Ser Lys

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130	135	140
Lys Ile Pro Phe Val Arg Glu Tyr Leu Met Ala	Lys Gly Val Cys Ser	
145	150	155
Val Ser Gln Pro Ala Ile Asn Tyr Leu Leu Ser	His Gly Thr Gly Asn	
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Leu Val Gly Ile Val Val Gly Val Gly Glu Ala	Leu Gln Ser Val	
180	185	190
Pro Asn Thr Thr Thr Leu Ile Leu Gln Lys Arg	Lys Gly Phe Val Arg	
195	200	205
Thr Ala Leu Gln His Gly Ala Tyr Leu Val Pro	Ser Tyr Ser Phe Gly	
210	215	220
Glu Asn Glu Val Phe Asn Gln Glu Thr Phe Pro	Glu Gly Thr Trp Leu	
225	230	235
Arg Leu Phe Gln Lys Thr Phe Gln Asp Thr Phe	Lys Lys Ile Leu Gly	
245	250	255
Leu Asn Phe Cys Thr Phe His Gly Arg Gly Phe	Thr Arg Gly Ser Trp	
260	265	270
Gly Phe Leu Pro Phe Asn Arg Pro Ile Thr Thr	Val Val Gly Glu Pro	
275	280	285
Leu Pro Ile Pro Arg Ile Lys Arg Pro Asn Gln	Lys Thr Val Asp Lys	
290	295	300
Tyr His Ala Leu Tyr Ile Ser Ala Leu Arg Lys	Leu Phe Asp Gln His	
305	310	315
Lys Val Glu Tyr Gly Leu Pro Glu Thr Gln Glu	Leu Thr Ile Thr	
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<210> 13

<211> 1872

<212> DNA

<213> Homo sapiens

<400> 13

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gctgaatgtg	ctctaaccct	ggacttggca	ttgcccctac	tgttgggaa	gcagtcgtt	180
tttctccagt	cttcaggc	ccttcaccag	ggaaccatta	acttgtgcat	cagaacaagg	240
acatttcctt	acattcctgc	aaacacagtc	ctttcagttt	actttttttt	tgaggggggg	300
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<210> 14
 <211> 333
 <212> PRT
 <213> Homo sapiens

<400> 14
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 35 40 45
 Thr Val Leu Ile Leu Thr Trp Leu Ala Phe Asp Trp Lys Thr Pro Gln
 50 55 60
 Arg Gly Gly Arg Arg Phe Thr Cys Val Arg His Trp Arg Leu Trp Lys
 65 70 75 80
 His Tyr Ser Asp Tyr Phe Pro Leu Lys Leu Leu Lys Thr His Asp Ile
 85 90 95
 Cys Pro Ser Arg Asn Tyr Ile Leu Val Cys His Pro His Gly Leu Phe
 100 105 110
 Ala His Gly Trp Phe Gly His Phe Ala Thr Glu Ala Ser Gly Phe Ser
 115 120 125
 Lys Ile Phe Pro Gly Ile Thr Pro Tyr Ile Leu Thr Leu Gly Ala Phe
 130 135 140
 Phe Trp Met Pro Phe Leu Arg Glu Tyr Val Met Ser Thr Gly Ala Cys
 145 150 155 160
 Ser Val Ser Arg Ser Ser Ile Asp Phe Leu Leu Thr His Lys Gly Thr
 165 170 175
 Gly Asn Met Val Ile Val Val Ile Gly Gly Leu Ala Glu Cys Arg Tyr
 180 185 190
 Ser Leu Pro Gly Ser Ser Thr Leu Val Leu Lys Asn Arg Ser Gly Phe
 195 200 205
 Val Arg Met Ala Leu Gln His Gly Val Pro Leu Ile Pro Ala Tyr Ala
 210 215 220
 Phe Gly Glu Thr Asp Leu Tyr Asp Gln His Ile Phe Thr Pro Gly Gly
 225 230 235 240
 Phe Val Asn Arg Phe Gln Lys Trp Phe Gln Ser Met Val His Ile Tyr
 245 250 255
 Pro Cys Ala Phe Tyr Gly Arg Gly Phe Thr Lys Asn Ser Trp Gly Leu
 260 265 270
 Leu Pro Tyr Ser Arg Pro Val Thr Thr Ile Val Gly Glu Pro Leu Pro
 275 280 285
 Met Pro Lys Ile Glu Asn Pro Ser Gln Glu Ile Val Ala Lys Tyr His
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 Thr Leu Tyr Ile Asp Ala Leu Arg Lys Leu Phe Asp Gln His Lys Thr
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 Lys Phe Gly Ile Ser Glu Thr Gln Glu Leu Glu Ile Ile

<210> 15
 <211> 1050
 <212> DNA
 <213> Homo sapiens

<400> 15

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cgccaggggg	gccggcacat	ccaggccatc	aggtgctgga	ctatatggaa	gtacatgaag	300
gactattcc	ccatccagct	ggtaaagact	gctgagctgg	accctctcg	gaactacatt	360
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tggttccggg	ccccctctt	cagagattac	atcatgtctg	cagggttggt	cacatcagaa	540
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gtaggggtg	cccaggaggc	cctggatgcc	aggcctggat	cttcacgct	gttactgcgg	660
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cagcattata	tcaaagagct	gtgcaaccc	ttcgaggccc	acaaacttaa	gttcaacatc	1020
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<210> 16
 <211> 333
 <212> PRT
 <213> Homo sapiens

<400> 16

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Ile	Cys	Thr	Val	Gly	Phe	Ile	Ala	Leu	Leu	Phe	Thr	Arg	Phe	Trp	Leu
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Leu	Thr	Val	Leu	Tyr	Ala	Ala	Trp	Trp	Tyr	Leu	Asp	Arg	Asp	Lys	Pro
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Arg	Gln	Gly	Gly	Arg	His	Ile	Gln	Ala	Ile	Arg	Cys	Trp	Thr	Ile	Trp
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Lys	Tyr	Met	Lys	Asp	Tyr	Phe	Pro	Ile	Gln	Leu	Val	Lys	Thr	Ala	Glu
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Leu	Asp	Pro	Ser	Arg	Asn	Tyr	Ile	Ala	Gly	Phe	His	Pro	His	Gly	Val
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Leu	Ala	Val	Gly	Ala	Phe	Ala	Asn	Leu	Cys	Thr	Glu	Ser	Thr	Gly	Phe
															115
Ser	Ser	Ile	Phe	Pro	Gly	Ile	Arg	Pro	His	Leu	Met	Met	Leu	Thr	Leu
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Trp	Phe	Arg	Ala	Pro	Phe	Phe	Arg	Asp	Tyr	Ile	Met	Ser	Ala	Gly	Leu
															145
Val	Thr	Ser	Glu	Lys	Glu	Ser	Ala	Ala	His	Ile	Leu	Asn	Arg	Lys	Gly
															165
Gly	Gly	Asn	Leu	Leu	Gly	Ile	Ile	Val	Gly	Gly	Ala	Gln	Glu	Ala	Leu
															180
															185
															190

Asp Ala Arg Pro Gly Ser Phe Thr Leu Leu Leu Arg Asn Arg Lys Gly
 195 200 205
 Phe Val Arg Leu Ala Leu Thr His Gly Ala Pro Leu Val Pro Ile Phe
 210 215 220
 Ser Phe Gly Glu Asn Asp Leu Phe Asp Gln Ile Pro Asn Ser Ser Gly
 225 230 235 240
 Ser Trp Leu Arg Tyr Ile Gln Asn Arg Leu Gln Lys Ile Met Gly Ile
 245 250 255
 Ser Leu Pro Leu Phe His Gly Arg Gly Val Phe Gln Tyr Ser Phe Gly
 260 265 270
 Leu Ile Pro Tyr Arg Arg Pro Ile Thr Thr Val Gly Lys Pro Ile Glu
 275 280 285
 Val Gln Lys Thr Leu His Pro Ser Glu Glu Glu Val Asn Gln Leu His
 290 295 300
 Gln His Tyr Ile Lys Glu Leu Cys Asn Leu Phe Glu Ala His Lys Leu
 305 310 315 320
 Lys Phe Asn Ile Pro Ala Asp Gln His Leu Glu Phe Cys
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<210> 17

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic peptide

<400> 17

Met Gly Asp Tyr Lys Asp Asp Asp Asp Gly
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<210> 18

<211> 1233

<212> DNA

<213> Homo sapiens

<400> 18

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ctactttccc atccagctgg	tgaagacaca	caacctgctg	480
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cgggggtgcg gctgagtttc	ttagctccat	gcctggcaag	780
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ggtccagaag aagtccaga	aatacattgg	gagggctcc	960
cctttctcc tccgacac	tttgc	ccatgttgc	1020
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ccacaccatg tacatggagg	ccctgg	aagcacaaga	1140
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gggagagccc	atcaccatcc	ccaa	
ccacaccatg	tacatggagg	ccctgg	
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1233